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ABSTRACT

The paper presents developmental charts detailing the needs and patterns of very young visually impaired children. Five age levels are considered (0-6 months, 6-12 months, 1-.25 years, 2.5-4 years, and 4-5 years) within the context of auditory awareness, body image, development of meaningful language, tactual awareness and manipulative skills, visual awareness, and locomotion and pre-orientation. Additional considerations noted include the need for extra early handling, the importance of encouraging exploration mannerisms, eating skills, toilet training, descriptive terminology, and the steps in promoting reading awareness. (CL)

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DEVELOPMENTAL LEVELS AND SUGGESTED LEARNING ACTIVITIES

FOR THE

VISUALLY IMPAIRED PRESCHOOL CHILD

A Special Report
Compiled by

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May 1977

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TABLE OF CONTENTS

PAGE

INTRODUCTION 1

DEVELOPMENTAL PATTERNS AND NEEDS OF VERY YOUNG VISUALLY IMPAIRED: (Charts)

Auditory Awareness 2

Body Image 3

Developing Meaningful Language 4

Tactual Awareness and Manipulative Skills . . . 5

Visual Awareness 6

Locomotion and Pre-orientation 7

Aspects Not Detailed on Developmental Charts:

A. Need for extra early handling:

B. Early environmental introduction:

C. Encourage exploring: 8

D. Mannerisms:

E. Eating Skills:

F. Toilet Training:

G. Descriptive Terminology: 9

H. Reading Awareness: 10

Bibliography 13

INTRODUCTION

Much of the information shared on the following pages merely outlines how to provide the visually impaired child with experiences that will give him an awareness and foundation similar to that of sighted children. In effect, it is aimed at promoting our awareness of common activities that do not depend upon vision to promote comprehension, categorization and communication.

Learning is the product of meaningful experiences. The extent to which it takes place is influenced by numerous factors, such as: the individual's abilities - present at birth, or acquired; appropriate level of exposure - based upon associative foundations established through previous experiences; effective input - logical, facilitating associations, or stimulating, providing impact; incentive - both positive and negative; and, consistent, but qualitatively enriching reinforcement.

With so many things affecting the learning process, it is obvious that each child's assimilation of experiences will be unique. There are certain acknowledged developmental patterns associated with adequate exposure that can be used for broad generalizations, but there are no strict guidelines. Therefore, although the following charts do list various developmental areas chronologically, it must be understood that the child's individual growth in that area is the best indicator of his level of development in that specific area.

Application of "The Outline of Aspects Not Detailed in the Charts" is also governed by the child's individual readiness, where related activities are concerned.

DEVELOPMENTAL PATTERNS AND NEEDS OF VERY YOUNG VISUALLY IMPAIRED

Auditory Awareness

AGE: 0 - 6 months	6 - 12 months	Toddler (1 - 2½ yrs)	2½ - 4 years	4 - 5 years
Subtle input of sounds: day - vs - night immediate surroundings Familiar voices (some put tape of mothers voice in crib, when away) Sources are meaningless (no associative bank yet) Avoid over-use of "artificial" (TV) sounds that could drown out potentially meaningful sounds.	1. Toys with sound. 2. Direct listening: ie, move sound source: a. at rest b. while sitting c. while crawling 3. Call to child from various directions and immediately follow with a gentle stroke from that same direction (on corresponding part of body, Ie: from left side.... stroke left hand and encourage to reach out) *Ear-hand coordination developes later than eye-hand coordination to encourage reaching.	1. Continue sound toys. 2. Explore sounds: A. Room: radio, records - move source to various parts of room. B. Household: Place hand on object making sounds(toilet; dialing phone; doors shutting; switches; winding clock; vacuum; crinkling paper). C. Encourage dev't of awareness for mobility clues . D. Call child to you as you move.	1. More advanced toys. (coins in bank) 2. Continue familiar sound exploration. -Child can respond to "What do you hear?" -make sure that clue you mean is distinct to child. (ie: Daddys truck in driveway) One that he has formed an association with and that is meaningful. 3. Planned activities: A. Records and tapes of sounds. If possible custom make tapes of familiar things and then new things) B. Trips to sources. (On walk in neighborhood) C. Emphasize attempts to identify sounds. D. Develop your own awareness of subtle sounds to identify.	1. Reinforce previous activities: A. Listening meaningfully. -Have child identify less immediate sources of sound (planes; street sweeper; fire engine; fog horn) B. Directing activities in sound. Provide as many activities associated with a specific sound as possible...Let him feel Dads razor vibrate. C. Interest in new: -know constant sounds -knows intermittent sounds (ie. mailman) 2. Frequent trips with <u>new</u> sound focus. Same route to store, more sounds. 3. Know how to use new sounds to advantage. (ie. neighbors sprinkler on sidewalk)

Body Image

AGE: 0 - 6 months	6 - 12 months	Toddler (1 - 2½)	2½ - 4 years	4-5 years
No visual input for subtle growth of awareness of spatial relationships. Gentle strokes of a continual flow to various extremities gives subtle input. (ie. Stroke arm from shoulder to elbow to tip of hand. Gently manipulate parts of the body (ie. kiss or stroke each finger one at a time)	Necessary to promote desire to explore environment. 1. "Game": pull from lying to sitting, with "fun" rhythmic comments. -stretch parts of body. -stroke parts of body. 2. Roll, left, right, over (as a game). 3. Describe while dressing (over head, arms in here, etc.) 4. Describe as starting to walk. (ie. guide from one space to another and say "step, step, step ...here we are" Consistant repetition for same area provides some distance informat.)	1. Encourage movement through the house independently. Tactually illustrate trailing and other means of identifying "landmarks". 2. If he bumps things see if he knows object. Point out some things don't move. -Other things are in the way occasionally (ie. laundry pile) 3. Should be able to tackle stairs with help...describe action. 4. Starting to climb. 5. While dressing start introducing identifying terms such as left arm, right foot as that corresponding part is moved or manipulated.	1. Encourage free movement in restricted area. -yard and house. 2. Simple gymnastics with aid: stand on head; hop on one foot; sit on floor and pull both feet up with hands and don't fall back. 3. Assist in dressing and undressing. Talk about what is going on. Identify body parts working with clothes. front, back, left, right, top, bottom. 4. Quiet activities: -how many. -show me (eyes, ears, clothing, etc.) -what is it?(in bag)	1. Independent travel in house, yard, and close neighborhood. 2. Minimal assistance in dressing. 3. Organized body related activities: (exercises with rhymes and songs). -Simon Says. 4. Large muscle activity. A. Elevated board for balance, climbing and jumping. B. Barrel - through, on over. C. Double Ladder - up and over.

Developing Meaningful Language

AGE: 0 - 6months	6 - 12 months	Toddler (1 - 2½ years)	2½ - 4 years	4 - 5 years
Subtle input through mother-infant bond while feeding and other: -ie: humming, talking -vs- yelling at siblings, etc.)	1. Voice inflection evokes emotions. 2. Child develops listening habit as you share. A. describe actions ie: as dressing... to set foundation for word association B. Songs & rhymes as holding or with direct interaction with child. C. As child starts babbling, repeat his sounds with him and make "game" of sounds formed by mouth. D. Use consistent terms to identify objects: ie, one of blanket, "banky", boo-boo...not all for same.	1. Encourage positive response to simple command; ie, come to me; bring the toy. 2. Approaching 2, can include reasons: Sit on chair while I comb your hair. 3. Story-time; encourage response, even if it's non-sensical. A. Center own stories around familiar objects. Include child's own name. B.Repeat stories that he enjoys and will commit to memory- later he can fill in. C. Story records. D. Help him use words to make needs known.	1. More advanced "toddler" activities. 2. Responding physically to language: A. Nursery rhymes: ie. Jack Be Nimble - jump. B. Records with motion that is described. 3. Give and take conversation patterns. ie. take child to the closet and ask what he wants to wear. Ask for descriptions of things. 4. Follows more involved commands: ie, Get paper from table and take to daddy.	1. Develop ability to think and decide. Avoid over protecting. Give choices. 2. Organization and retelling stories. Differentiate between fact and false. - Describe activities in order and have him follow. 3. Awareness of time and relationship to when things happen; -daddy is home on weekends; - breakfast is in the morning. 4. Direct introduction to more descriptive terminology as detailed in following outline.

Tactual Awareness and Manipulative Skills

AGE: 0 - 6 months	6 - 12months	Toddler (1 - 2½)	2½ - 4 years	4 - 5 years
Caressing, cuddling and other "strokes of love." The child cannot see signs of love and acceptance and needs greater tactual input for such reinforcement.	Toys pleasant to touch. -"fuzzy" is not a favorite although gradual introduction prepares for interaction with pets. -Hang toys above crib and guide hands and feet to touch. - Consistent location will encourage reaching and locating.	1. Improve ability to use hands and fingers. A. Toys: nesting toys, busy-box; wind-up. -guide hand for introduction and repeat if necessary ...many times. B. Self-feeding -fingers and spoon. allow child to explore food by touch -accept fact that it will be messy and prepare ahead. C. Helps with dressing. (undressing preceeds dressing.) -allow time for him to try for independence. 2. Use descriptive terms and help child to form appropriate associations through varied reinforcements: stove-hot; tea cup-hot; heater hot; ice-cold; tile floor in morning; cold; Pillow soft.	1. Active attempts to discriminate various textures. (night clothing, day clothing, coats, drapes, rugs, furniture, various surfaces) Provide related descriptive terminology 2. Scraps on cards for tactual awareness. (rough, soft, etc.) -Match cards...with other cards...with items of same fabric. 3. Attempts: buttoning with large buttons; string beads; open and close door; spoon feeding; play dough; brushing teeth.... 4. Introduce child to braille and tactual pages of books. -label (simple) familiar objects (Detailed later)	1. Household tasks: help child to do simple chores such as dusting, setting table, washing safe dishes etc. 2. Independent dressing except for details. 3. Assists with bath. 4. Knows where things are and gets many of the things that he wants. 5. Knows different walking surfaces. 6. Can go wash for dinner independently. 7. Makes "resemplances" with clay and playdough. 8. Cut and paste. 9. Supervised, but unassisted teethbrushing. 10. Provide more labels - in braille with descriptions included.

Visual Awareness

0 - 6 months	6 - 12 months	Toddler (1 - 2½ years	2½ - 4 years	4 - 5 years
none, or light perception, or not measured.	Some vision: Develop any vision present. A. Light over child's shoulder, not directly in face. B. Bright colors and sharp outlines (big)	1. DO NOT change child's manner of holding an object to see. This may thwart further exploration. 2. Draw attention to new, colorful items: ie: vegetables, packages, magazines, clothing. - provide identifying terminology to encourage association with visual input.	1. Color along with texture descriptions of clothing. 2. Size comparisons. -toys (nesting) -clothing -furniture -trees & plants. -vehicles 3. Block towers and stringing beads (color, shape, quantity) 4. Crayons & paper. mention colors. (Black on white paper provide sharpest contrasts). 5. Provide written or brailled labels on objects to introduce reading word association. -Braille detailed later. -Visual...large enough for child to focus on letter configurations. (make letter tactile for reinforcement)	1. Choosing one that is different (color, shape object, texture) ie, 2 spoons and one fork. - use familiar objects(clothes) - introduce new objects (ie. toys designed for such activities) 2. Matching objects: colors shapes, feels etc. - Familiar objects. - Props made for such activities (ie: cards with raised shapes) 3. Picture books: large simple pictures. Relate picture to actual object. Describe fantasy pictures. 4. Continue reading labels.

Locomotion and Pre-orientation*

* "the process of utilizing remaining senses in establishing position and relationship to all other significant objects in the environment."

During the younger ages, all other areas are helping to form the foundation for this area. The age categories of about 3-4 years and 4-5 years, however are more directly related. Some characteristics earlier are worth mentioning though.

Characteristics of very young	AGE: 3 - 4 years	4 - 5 years
The infant does not characteristically lift head and body....no visual stimuli. Supine to sitting, sitting to standing, and creeping are delayed as compared with patterns of sighted. - Again there is lack of incentive. - Problem is not physical but rather a "developmental hazard".... and can promote passivity and subjectivity. Rolling over and sitting are in normal range. "ear-hand" coordination occurs later than "eye-hand" coordination which stimulates sighted child before. Self-initiated mobility is delayed.	Comprehensive vocabulary necessary for awareness of meaningful concepts: 1. Body parts: head, eyes, ears, etc. 2. Concepts of meaningful locomotion: front, back, stop, wait, up, down, big, little. hot, cold. a. Physically go through actions with child using familiar objects as props, touching and defining. b. Ask child to show what is meant by concepts. 3. Physical skills: a. Jump: lift with hands as saying "jump" - use step. b. Walk: many have abnormal gait. Guide heel, toe and bent knee. c. Run: hold both hands and move back; one hand; then unassisted. d. Hop: Show one foot up action. e. Climb: Stairs and chairs. Guide movements for starters. 4. Sound Identification: Stationary clue sounds. Doorbell, sprinklers etc.	1. Body parts: more details: ie, chin, neck, shoulders, waist, elbow. -Play Simon Says. 2. Locomotion Concepts: (more advanced) Develop in pairs: high-low; tall-short; toward-away; wide-narrow; heavy-light solid; warm; cool. 3. Physical skills: Stretch, march, stoop, squat, gallop. Define actions as doing. Natural with music. 4. Sound Identification: Sources not really meaningful before (ie, ticking of clock; power equipment....)

Aspects Not Detailed on Developmental Charts

A. Need for extra early handling:

1. Attention away from self, to avoid passivity. Provide external stimuli.
2. Alone (in crib or other) too long is negative: No visual stimulus to entertain and sound associations are not yet established.
   Blind babies characteristically do not push up on hands, with head up....no reason to. It is also reported that they do not care for prone position.
3. Carry about when possible - to promote awareness of sounds, smells, drafts, etc. in different areas. Later place his hands on doorways and other landmarks, with simple verbal descriptions.
4. Avoid constant radio and TV sound input which drowns out meaningful audio input and can lead to passivity. In car, too.

B. Introduce to different things early making them more natural ...less resistance later. ie. floor (hard, cold); harsh sounds of bathroom where walls echo running water and flushing.

C. Encourage exploring:

1. Finding toys - guide hand rather than move toy to child. If toy tied to chair, help child to locate and pull string.
2. Playpen for home base. Expect a longer cruising period. Allow the child the security of having "his" area near by.
3. Teach protective motion:
   a. Walking - first let him grasp both of your hands as you move backwards from him. Then let him hold one of your hands as you walk beside him. Encourage him to touch landmarks. Then let him go on his own when ready.
      - In familiar area teach environmental clues; hand trailing and hand up for protection.
      - In new area, lead with child holding you (your elbow, hand, skirt) rather than you holding and guiding.
   b. Bending down - protection for head bumps...hand out.
   c. Help develop obstacle identification abilities.
   d. If discouraging bumps, child may feel safer with "helmet" temporarily.

D. Mannerisms - These can be tensional outlets such as body-rocking, twirling, jiggling, thumbsucking, eye poking (blind) etc. Often develop due to boredom and frustration. Provide outlets and exercise to combat rather than compounding frustrations with commands to stop.

E. Eating Skills:

1. DO NOT use a bottle holder. This child especially needs human bonding at this time.

-Encourage independent skills with solids.

2. Finger feeding as soon as he begins to sit: -even such things as mashed potatoes...although tactually demonstrate use of spoon and have one available.
3. Encourage spoon feeding before age 4, although work harder at it around this time.
   Repeatedly demonstrate: Have child grasp spoon in dominant hand, and while standing behind him, place your hand over his and guide in scooping process and then to mouth.
   Provide "sticky foods" ie. pudding, soup with lots of crackers, oatmeal, mashed potatoes.
4. Fork feeding occurs independently at about 7, but demonstrate spearing earlier.
   a. First allow use of index finger of free hand to locate and push food.
   b. Later provide pushers (bread) then knife.
5. Knife for cutting, much later...about 10 or 12. Help to identify cutting edge, and tactually demonstrate cutting.
6. School lunches: Teach , by physically guiding the child's hands, how to open bags, wrappings and cartons.

F. Toilet Training: Introduce to bathroom area early so that the difference between it and other rooms is not unfamiliar and frightening.
After child is walking provide seat allowing feet to rest on a surface (he can't see and may not like the suspended feeling otherwise).
Expect the child to explore by touching.

G. <u>Descriptive Terminology</u>: The sighted child is constantly exposed to subtle introduction and reinforcement of basic concepts and comparisons through looking.
The blind child has the same need to understand the descriptive terminology, but requires a more direct learning experience that he can feel. Verbal descriptions alone are often not enough because the child's associative vocabulary is not that big.
Take caution to be sure that the child's observation and association of the experience is what you intended.(ie. some textures that "look" the same, may not "feel" the same)

When possible, use objects closely related to the child- parts of his body; his clothing; his toys; his furniture; his utensils: Also, introduction in pairs for comparative evaluation is good, and providing aids helpful for the association:

1. Likes - differences: matching spoons and forks; clothing; parts of body; chairs; doors; plants....
2. Small-medium-large: nesting toys (cans) pots and pans; dishes; clothing..especially shoes; provided toys*
3. Big-little: people; clothing; chairs; toys; quantities such as with food; provided toys*
4. Shapes: The primary shapes for low vision child provides basis for recognition of shape configurations of letters. For the blind...descriptive qualities. Circle: glasses, cups, dishes, some door knobs; Square: some windows, some pillows, bottoms of milk cartons; triangles: top of milk carton; rectangle: doors; some windows; couch cushions and pillows. All in provided toys*
5. In-Out: boxes; nesting toys; spoon in pot; climb in wagon; in car; out of house; in yard; foot in shoe.
6. Up-Down: stairs; reaching exercises; up on shelf.
7. Top-Bottom: of clothing; of body; of drawers; shelves; doors
8. Over-Under: Over puddles; under trees (branches); total involvement exercises. Provided toys*
9. On top- Underneath: placing objects places; On top of blanket; underneath cover.
10. Wide-Narrow: Hallways; sidewalks; sleeve holes and necks of clothing; provided toys*
11. Sound matching- different bells (doorbells) spoons banging pots; cans with noisemaker; Different toys; instruments.
12. Depth: glasses; steps (stairs) cups; water in the tub.
13. Thick-thin: materials on clothing; carpets; pillows; foods; batters (cake -vs- cookie)
14. Texture matching; sweaters, coats, other clothing; drapes; towels; upholstery Provided materials*
15. Hard-soft: pillows; floor; rugs; toys.
16. Rough-smooth: walls; floors; table tops; counters.
17. Front- back: of body; of clothing; of house; of lines in school or for bus stop.
18. Number sequences: 1st, 2nd, 3rd. (for waiting turn); of activities such as meals; of days in week; of months.

*Provided materials refers to materials specifically designed for promoting association in that area.

19. Left-Right: of arms, legs; parts of clothing; directions.

H. Reading Awareness: The sighted child develops an awareness of written words long before he can read them. His world is full of letters, words and phrases on clothing, food, household appliances, signs and in books that provide the exposure and incentive for learning to read.

The blind child deserves this same type of early exposure to braillo. By making braille a natural experience for the child (parent and teacher) he will develop a subtle awareness of reading before he can actually decipher the dot configurations.

This can be done in various ways:

1. Label Objects.
   a. Simple braille labels:
      1) Indicate the beginning of a word to avoid having it read upside-down. ie: precede the word with 2 cells of dots 3,6.
      2) Use Grade #2 braille since that is what he'll be getting at school.
      3) Provide corresponding print to promote sharing and comprehension of the experience:
         -If braille label maker is used, tape corresponding print above.
         -If clear label is used, have print strip underneath.
         -If braille paper or braillon is used, print directly on the strip.
         (Print should have contractions identified by underline or parenthesis to facilitate association of the 2 approaches).
      4) Select objects and label with words familiar to the child, and at his level. ie: If a toy wonder horse has been fondly named "Charlie", the label should say the name given rather than the name of the object (horse) which has not been used much.
         - Start with simple everyday objects:that the child is aware of and in contact with every day: bed, chairs, table, door, drawers, cupboards, cup, window, books, toys, wall, hall, stairs ..
         -Personalise the child's belongings and work areas with his own name, marking his coat hook, chair, storage box, cup, toothbrush, etc.
         -Same textures and raised shapes are easier sources for identification of these things if more than one child in a classroom has brailled labels and word differentiation has not yet been developed adequately.
   b. Place labels in strategic locations for the child's observation: - If he will be facing the object, like a door, have it upright where it will be comfortable for him to touch.
      - if he will be feeling it by reaching down, as with the back of his own chair, place the label so that it is "right-side-up" for his touch.
   c. As child's awareness of brailled word association develops custom make labels according to his interest.
   d. With introduction of each new label guide the child's fingers across the word in the proper direction, first. Then do not force the issue, but continue each initial experience from the "start of word indicator" to subtly reinforce this concept without frustrating.

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e. Provide more labels as childs environmental awareness developes: ie: desk; refrigerator; washer; dryer; tub; faucet (hot, cold); radio; TV (or television); sterio; flower pot; clock; food products (bread, milk, juice, salt and pepper, cereals by name, jars, etc...labels can be re-used by having string or single thread elastic attatched at each end).
-Label items associated with various household chores: waste basket; napkin holder; silverware drawer-knives, forks, spoons; laundry basket; toy box, mailbox; dog bowl etc.

f. If the child likes the "game" with labels and is ready for details, start introducing simple meaningful and descriptive word combinations: Charlie the wonder horse; daddys chair; high chair; top-middle-bottom drawers and shelves; front door; screen-door; side gate; doorbell; table leg; chair back; chair arm; itemize shelves (towels; sheets, cereals, cans, dishes, glasses).

2. Allow the child to feel the braille of shared stories.
3. Provide the child with short brailled poems, double spaced with print above braille, that he will enjoy committing to memory. He may just enjoy having his own poem, but there will be the opportunity to form braille recognition.
-Mark the top of the page or starting area.
4. Provide cards with short sayings brailled double spaced. ie: Feed the dog. Get your coat. Constant exposure in a natural, <u>fun</u> way will at least introduce the child to braille.

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